Course Syllabus (Academic Year 2020)

School of Interdisciplinary Studies, Kanchanaburi Campus, Mahidol University

1. **Course No. and Title** : KAAG 223 Science and Technology of Economic Animal Production
   Credit (study hours) : 3 (2-3-5)
2. **Program Name** : Bachelor of Science Program in Agricultural Science
3. **Course Module** : AG core course
   Pre/co-requisite : no
4. **Class Semester** : ☐ 1st Semester ☑ 2nd Semester Academic Year 2020
5. **Class Schedule & Venue** : Lecture 10:00 – 12:00 AM, Room 2216, Lecture Building
   Laboratory 01:00 – 04:00 PM, Room L-103, Laboratory Building
6. **Class Coordinator** : Dr.Chananat Kaewmanee
   Contact No. : 091-8577483, 087-7752355
   E-mail: chananat.kae@mahidol.ac.th, k.chananat@gmail.com
7. **Course Description**

   The importance of economic animals; livestocks and aquatic animals; feeds and digestion; animal husbandry; reproduction; screening; breeding; farm management; sanitation; prevention of diseases; marketing, and regulations and laws related to economic animals; altruism and ethics of animal production; teamwork; presentation of selected topics

8. **Course Objectives / Course Learning Outcomes (CLOs)**

No.	Objectives / CLOs	Expected Skills / Knowledge		PLOs*
		Specific	Generic	
8.1	Correctly understand the economic animals	Scientific skill	Numeracy skill	1
		Cultivation skill	Accountability skill Resource management skill	
8.2	Correctly understand methods and processes of economic animal production	Managerial skill	Analytical thinking skill Communication skill Decision making skill IT skill Managing risk	1
8.3	Think and analyze data systematically in management of economic animal production	Managerial skill	Communication skill Decision making skill Managing risk Moral and ethics Entrepreneur mind IT skill	1,4,5,6

Footnote: *PLOs = Program Learning Outcomes

PLO1: Systematically solve problems in agricultural science, agricultural industry, plant and animal productions, agricultural management and related disciplines emphasizing on energy and industry crops according to academic principles

PLO2: Examine and administer projects those can solve problems and organize knowledge in agricultural science

PLO3: Demonstrate agricultural practices both in the field and laboratory with concerns of academic standards and safety

PLO4: Communicate information to target groups successfully by using appropriate language and multimedia

PLO5: Work as an agricultural scientist together with people with responsibility and acceptance of diverse perspective and culture toward goal achievement of team

PLO6: Effectively use information and communication technology (ICT) to benefit assigned practices as an agricultural scientist

9. Class Instructor List

9.1 Name : Dr.Chananat Kaewmanee E-mail: chananat.kae@mahidol.ac.th (Agricultural Science)

1.1 Name : Assoc.Prof.Dr.Chontira Sangsiri E-mail: chontira_sangsiri@yahoo.com (Agricultural Science)

1.2 Name : Dr.Sarawut Taksinoros E-mail: sarawut.tak@mahidol.ac.th (Veterinary Medicine, MU)

1.3 Name : Assoc.Prof.Dr.Wanna Sirimanapong E-mail: wanna.sir@mahidol.ac.th (Veterinary Medicine, MU)

1.4 Name : Dr.Rapeewan Thampaisarn E-mail: rapeewan.tha@mahidol.edu (Veterinary Medicine, MU)

1.5 Name : Lect.Siriporn Tantawet E-mail: siriporn.tan@mahidol.ac.th (Veterinary Medicine, MU)

1.6 Name : Burin Seangsuk E-mail: burin.sea@mahidol.ac.th (SOU)

10. Course Outline

Week	Date	Contents	CLOs	Teaching & Learning	Instructor's Names
1	18 Jan 2021	Lecture: Introduction of Economic animals	1	Lecture, Q&A, Assignment	Chananat
		Laboratory: Study of Economic animals		Group discussion, Lab report	Chananat, Burin
2	25 Jan 2021	Lecture: Animal feed	1, 2, 3	Lecture, Q&A, Assignment	Chananat
		Laboratory: Analysis of Animal feed		Group discussion, Lab report	Chananat, Burin
3	1 Feb 2021	Lecture: Forage crops	1, 2, 3	Lecture, Q&A, Assignment	Chontira
		Laboratory: Forage crops		Practice, Lab report	Chontira, Burin
4	8 Feb 2021	Lecture: Poultry production (Chicken, Duck)	1, 2, 3	Lecture, Q&A, Assignment	Rapeewan
		Laboratory: Poultry production (Chicken, Duck)		Practice, Lab report	Rapeewan, Burin
5	15 Feb 2021	Lecture: Edible insects production	1, 2, 3	Lecture, Q&A, Assignment,	Chananat
		Laboratory: Rearing of and cricket and mealworm		Group discussion, Lab report	Chananat, Burin

Week	Date	Contents	CLOs	Teaching & Learning	Instructor's Names
6	22 Feb 2021	Lecture: Poultry production (Quail, Ostrich)	1, 2, 3	Lecture, Q&A, Assignment	Rapeewan
		Laboratory: Poultry production (Quail, Ostrich)		Group discussion, Lab report	Rapeewan, Burin
7	1 Mar 2021	Lecture: Goat and sheep production	1, 2, 3	Lecture, Q&A, Assignment	Sarawut
		Laboratory: Goat and sheep production		Group discussion, Lab report	Sarawut, Burin
8	8 Mar 2021	Lecture: Swine production	1, 2, 3	Lecture, Q&A, Assignment	Siriporn
		Laboratory: Swine production		Group discussion, Lab report	Siriporn, Burin
9	**Mid-term Examination (15 - 19 March 2021)**				
10	22 Mar 2021	Lecture: Aquaculture production (Fish)	1, 2, 3	Lecture, Q&A, Assignment	Wanna
		Laboratory: Aquaculture production (Fish)		Group discussion, Lab report	Wanna, Burin
11	29 Mar 2021	Lecture: Aquaculture production (Shrimp)	1, 2, 3	Lecture, Q&A, Assignment,	Wanna
		Laboratory: Aquaculture production (Shrimp)		Group discussion, Lab report	Wanna, Burin
12	5 Apr 2021	Lecture: Buffalo, and cattle production	1, 2, 3	Lecture, Q&A, Assignment	Sarawut
		Laboratory: Buffalo, and cattle production		Practice, Lab report	Sarawut, Burin
13	19 Apr 2021	Lecture: Dairy production	1, 2, 3	Lecture, Q&A, Assignment	Sarawut
		Laboratory: Dairy production		Practice, Lab report	Sarawut, Burin
14	26 Apr 2021	Lecture: Animal breeding	1, 2, 3	Lecture, Q&A, Assignment	Sarawut
		Laboratory: Animal breeding		Group discussion, Lab report	Sarawut, Burin
15	3 May 2021	Lecture: Animal health and sanitation/Animal protection laws	1, 2, 3	Lecture, Q&A, Assignment	Sarawut
		Laboratory: Animal health and sanitation/Animal protection laws		Group discussion, Lab report	Sarawut, Burin

Week	Date	Contents	CLOs	Teaching & Learning	Instructor's Names
16	10 May 2021	Lecture: Management of livestock pests	1, 2, 3	Lecture, Q&A, Assignment	Chananat
		Term paper presentation		Presentation, Q&A, Report	Chananat, Burin
17	Final Examination (13 - 25 May 2021)				
18					

11. Course Assessment

No.	Methods / Activities	Regulations	CLOs	Week	Weight Distribution (%)
11.1	Mid-term exam	examination for 3 hours (knowledge of 1st to 8thweek)	1, 2	9	35
11.2	Final exam	examination for 3 hours (knowledge of 10th to 16th week)	1, 2, 3	17 - 18	35
11.3	Quiz / Reports/ Assignments	will be announced in the class	1, 2, 3	every week	10
11.4	Term paper report/ Presentation	will be announced in the class	1, 2, 3	16	15
11.5	Class participation	will be announced in the class	1, 2, 3	every week	5
Total					**100**

12. Grading System

☑ Criterion-referenced evaluation

Grade	Score	Grade	Score	Grade	Score	Grade	Score
A	≥ 80 %	B	70 – 74.99%	C	60 – 64.99%	D	50 – 54.99%
B+	75 – 79.99%	C+	65 – 69.99%	D+	55 – 59.99%	F	< 50 %

☐ Norm-referenced evaluation

*If use both criterion and norm-referenced evaluation, please tick two boxes.

13. References

13.1 FAO and OIE. (2009). Guide to good farming practices for animal production food safety. Retrieved from http://www.oie.int/fileadmin/Home/eng/Current_Scientific_Issues/docs/pdf/eng_guide.pdf

13.2 Hanboonsong, Y., and P. Durst. (2020). Guidance on sustainable cricket farming: a practical manual for farmers and inspectors. Food and Agriculture Organization of the United Nations, Bangkok, Thailand.

13.3 Mullen, G.R., and L.A. Durden. (2009). Medical and veterinary entomology. 2nd edition. Academic Press, CA.

13.4 Odongo, N.E., M. Garcia and G.J. Viljoen. (2010). Sustainable improvement of animal production and health. Retrieved from http://www-naweb.iaea.org/nafa/aph/public/part1-aphs-symposium.pdf

13.5 Eckard, R., M. Bell, K. Christie, and R. Rawnsley. (2012). Livestock. Retrieved from https://www.researchgate.net/publication/235246965_Livestock_Production